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Features of the photosynthetic activity of millet (Panicum miliaceum L.) in drought conditions

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Abstract

In the Pre-Kama zone of the Republic of Tatarstan, the main limiting factor of the yield of most crops is the drought. One of the ways of solving this problem is the selection of early ripening varieties, able to form seed harvest before the onset of adverse conditions. This paper presents a comparative characteristics of samples of millet (Panicum miliaceum L.) of mid-early and mid-season groups in terms of photosynthetic activity. We revealed the significant differences in area and dry biomass of leaves, photosynthetic potential of the samples of different maturity groups. Significantly lower values of some indicators of photosynthetic activity of mid-season group are due to drought conditions, coinciding with the functioning of assimilation surface. In dry weather conditions, the productivity of the main shoot is highly affected, directly and indirectly, by economic coefficient of the main panicle, the photosynthetic potential of leaves of the plant in general and the photosynthetic potential of the leaves of the lower and middle tiers.

Keywords

Drought, Leaf area, Maturity group, Millet, Photosynthetic potential